RCE

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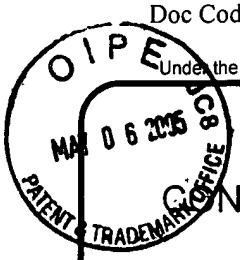

REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

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Application Number	09/575,033
Filing Date	5/19/2000
First Named Inventor	Kari Jyrkka
Art Unit	2666
Examiner Name	Mehra, Inder P.
Attorney Docket Number	872.8708.USU

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

a. ☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
   i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
   ii. ☐ Other _____

b. ☒ Enclosed
   i. ☒ Amendment/Reply
   ii. ☐ Affidavit(s)/Declaration(s)
   iii. ☐ Information Disclosure Statement (IDS)
   iv. ☐ Other _____

2. Miscellaneous
   a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
   b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
   a. ☒ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 50-1924. I have enclosed a duplicate copy of this sheet.
      i. ☒ RCE fee required under 37 CFR 1.17(e)
      ii. ☒ Extension of time fee (37 CFR 1.136 and 1.17) 05/09/2005 WASFAW1 00000019 09575033
      iii. ☐ Other 01 FC:1801 790.00 OP
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	Harry Smith	Date	May 4, 2005
Name (Print / Type)	Harry F. Smith	Registration No.	32,493

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Name (Print / Type)	Elaine F. Mian	Date	May 4, 2005

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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IN THE U.S. PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of:

APPLICANTS: Kari Jyrkkä et al.

SERIAL NO.: 09/575,033 FILING DATE: 05/19/2000

EXAMINER: Mehra, Inder P. ART UNIT: 2666

ATTORNEY'S DOCKET NO.: 872.8708.USU

TITLE: ENHANCEMENTS TO THE 3-CARRIER COMPACT SOLUTION FOR IS-136HS

Commissioner for Patents

Alexandria, VA 22313

SUPPLEMENTAL RESPONSE TO OFFICE ACTION

Sir:

This paper is herewith filed in response to the Advisory Action mailed on 04/29/2005 and in conjunction with the filing of a Request for Continuing Examination to have the previously submitted amendment after final rejection entered and considered. Appended hereto is a petition and a check in payment of the fee for a two month extension of time, minus the fee for a one month extension previously paid. However, should the undersigned attorney be mistaken, please consider this a petition for any extension of time that may be required to maintain the pendency of this Patent Application, and charge deposit account no.: 50-1924 for any required fee deficiency.

AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

The following claim amendments repeat those filed in the response to the final rejection on 04/08/2005. No new claim amendments are proposed below.

Listing of Claims:

1. (Currently Amended) A method for enabling an introduction of a 200kHz GSM-type network into a TDMA system having a bandwidth that is substantially less than a 2.5MHz bandwidth normally employed for GSM-type networks, comprising the steps of:

providing a 52-multiframe containing 12 blocks of four consecutive frames, two idle frames, and two channels used for control channel purposes, said frames comprising a ~~number~~ plurality of sequentially numbered timeslots; and

rotating control channels belonging to a serving time group over ~~every other~~ non-sequential, alternate timeslot ~~number~~ numbers within a frame.

2. (Currently Amended) The method as in claim 1, wherein the rotation occurs over odd timeslot numbers in a repeating sequence given as 7, 5, 3, 1, 7, 5,..., ~~etc.,~~ and where the rotation occurs between frame numbers (FN) mod 52 = 3 and 4.

3. (Previously Presented) A method to enable an introduction of a 200kHz GSM-type network into a TDMA system having a bandwidth that is substantially less than a 2.5MHz bandwidth normally employed for GSM-type networks, comprising:

providing a 52-multiframe containing 12 blocks of four consecutive frames, two idle frames, and two channels used for control channel purposes, each of said frames

comprising a number of timeslots; and

rotating control channels belonging to a serving time group over every other timeslot number,

wherein a mapping of the control channels on timeslot numbers is defined by the following formula:
For $0 \leq FN \bmod 52 \leq 3$, $TN=((6x((FN \text{ div} 52) \bmod 4)) + 1 + (2xTG)) \bmod 8$; and
For $4 \leq FN \bmod 52 \leq 51$, $TN=((6x((FN \text{ div} 52) \bmod 4)) + 7 + (2xTG)) \bmod 8$,
where TG is a time group value.

4. (Previously Presented) The method as in claim 1, wherein information specifying at least the rotation direction is signalled to the mobile station in a downlink synchronization channel.

5. (Currently Amended) A wireless TDMA digital communications system, comprising:

at least one mobile station; and

a plurality of base transceiver stations individual ones of which are capable of transmitting packet data to, and receiving packet data from, said mobile station using a 52-multiframe, said frames comprising a ~~number~~ plurality of sequentially numbered timeslots, wherein individual ones of said base transceiver stations rotate the transmission of control channels belonging to a serving time group over ~~every other~~ non-sequential, alternate timeslot ~~number~~ numbers within a frame for enabling said mobile station to perform reselection measurements on neighboring base transceiver stations ~~without dropping traffic~~.

6. (Previously Presented) The system as in claim 5, wherein the rotation occurs between frame numbers (FN) mod 52 = 3 and 4.

7. (Previously Presented) A wireless TDMA digital communications system, comprising:

at least one mobile station; and

a plurality of base transceiver stations individual ones of which are capable of transmitting packet data to, and receiving packet data from, said mobile station using a 52-multiframe, said frames comprising a number of timeslots, wherein individual ones of said base transceiver stations rotate the transmission of control channels belonging to a serving time group over every other timeslot number for enabling said mobile station to perform reselection measurements on neighboring base transceiver stations without dropping traffic,

wherein a mapping of the control channels on timeslot numbers is defined by the following formula:
For $0 \leq FN \bmod 52 \leq 3$, $TN=((6x((FN \text{ div} 52) \bmod 4)) + 1 + (2xTG)) \bmod 8$; and
For $4 \leq FN \bmod 52 \leq 51$, $TN=((6x((FN \text{ div} 52) \bmod 4)) + 7 + (2xTG)) \bmod 8$,
where TG is a time group value.

8. (Previously Presented) The system as in claim 5, wherein information specifying at least the rotation direction is signalled to the mobile station in a downlink synchronization channel.

9. (Currently Amended) The system as in claim 5, wherein the rotation of the control channels occurs in odd timeslot numbers <u>in a repeating sequence given</u> as 7, 5, 3, 1, 7, 5,..., ~~etc.~~.

10. (Currently Amended) A network component of a wireless TDMA communications system, comprising circuitry to transmit information to a mobile station using a 52-multiframe, where frames comprise a ~~number of~~ plurality of sequentially numbered timeslots, said circuitry operating to rotate the transmission of a control channel belonging to a serving time group over odd timeslot numbers in a repeating sequence given as 7, 5, 3, 1, 7, 5,..., ~~etc.~~, where the rotation occurs between two predetermined frame numbers (FNs).

11. (Previously Presented) The network component of claim 10, where the rotation occurs between FNs mod 52 = 3 and 4.

12. (Currently Amended) A network component of a wireless TDMA communications system, comprising circuitry to transmit information to a mobile station using a 52-multiframe, where frames comprise a ~~number~~ plurality of sequentially numbered timeslots, said circuitry operating to rotate the transmission of a control channel belonging to a serving time group over odd timeslot numbers in a repeating sequence given as 7, 5, 3, 1, 7, 5,..., ~~etc.~~, where the rotation occurs between two predetermined frame numbers (FNs), and where a mapping of the control channels on timeslot numbers (TNs) is defined by:

For $0 \leq FN \bmod 52 \leq 3$, $TN=((6x((FN \text{ div} 52) \bmod 4)) + 1 + (2xTG)) \bmod 8$; and
For $4 \leq FN \bmod 52 \leq 51$, $TN=((6x((FN \text{ div} 52) \bmod 4)) + 7 + (2xTG)) \bmod 8$,
where TG is a time group value.

13. (Currently Amended) A mobile station for use in a wireless TDMA communications system, comprising circuitry to receive information from a 52-multiframe, where frames comprise a ~~number~~ plurality of sequentially numbered timeslots, said receive circuitry operating to synchronize to the rotation of the transmission of a control channel belonging to a serving time group over odd timeslot numbers in a repeating sequence given as 7, 5, 3, 1, 7, 5,..., ~~etc.~~, where the rotation occurs between two predetermined frame numbers (FNs).

14. (Currently Amended) ~~The mobile station of claim 13~~ A mobile station for use in a wireless TDMA communications system, comprising circuitry to receive information from a 52-

multiframe, where frames comprise a plurality of sequentially numbered timeslots, said receive circuitry operating to synchronize to the rotation of the transmission of a control channel belonging to a serving time group over odd timeslot numbers in a repeating sequence given as 7, 5, 3, 1, 7, 5,..., where the rotation occurs between two predetermined frame numbers (FNs), where a mapping of the control channels on timeslot numbers (TNs) is defined by:

For $0 \leq FN \bmod 52 \leq 3, TN=((6x((FN \text{ div} 52) \bmod 4)) + 1 + (2xTG)) \bmod 8$; and
For $4 \leq FN \bmod 52 \leq 51, TN=((6x((FN \text{ div} 52) \bmod 4)) + 7 + (2xTG)) \bmod 8$,
where TG is a time group value.

REMARKS

As was stated in the response filed after final rejection, and without admitting that the claims are unclear or fail to succinctly point out and distinctly claim the subject matter of this invention, a number of claims have been amended to even further clarify the claim language. As an example, claim 1 now recites that "frames comprising a plurality of sequentially numbered timeslots", and that rotating control channels belonging to a serving time group occurs "over non-sequential, alternate timeslot numbers within a frame". Claim 5 was amended in a similar fashion.

In addition, claim 2, and other somewhat similar claims, were amended to recite that the rotation occurs "over odd timeslot numbers in a repeating sequence given as 7, 5, 3, 1, 7, 5,..., ", and to remove the "etc." previously stated at the end of the claimed sequence.

These merely clarifying amendments are deemed to be fully responsive to the Examiner's reasons for rejection under 35 U.S.C. 112, second paragraph, and to render the rejection moot.

In the Advisory Action the Examiner stated that the phrases: "plurality---sequentially numbered" and "non-sequential, alternate--- numbers within a frame" are not supported by the specification, and raise an issue of new matter.

The Examiner's statements are respectfully disagreed with, and are traversed below.

Claim 1, as amended, recites in part:

"said frames comprising a plurality of sequentially numbered timeslots".

Reference can be had, for example, to Appendix A, where a plurality of time slots (TS) in frames (F) are shown as being sequentially numbered as 0, 1, 2, 3, 4, 5, 6, 7. Reference can also be had to Fig. 3, the column labeled "Allowable time-slot assignment", where the time slots are listed as "0...7".

The specification clearly provides support for the claimed language: "said frames comprising a plurality of sequentially numbered timeslots".

Claim 1, as amended, also recites in part:

"rotating control channels belonging to a serving time group over non-sequential, alternate timeslot numbers within a frame".

The specification as filed states at page 9, lines 10-22:

> "For the Compact solution of most interest to this invention, timeslot mapping and rotation of control channels is used such that, for a next step of the method, the control channels belonging to a serving time group are **rotated over every other timeslot number**. In a preferred embodiment of this invention **the rotation occurs over odd timeslot numbers**. In a most preferred embodiment of this invention **the rotation occurs over odd timeslot numbers as 7, 5, 3, 1, 7, 5,..., etc.** The rotation occurs between frame numbers (FN) mod 52 = 3 and 4. The packet switched logical channels Packet Data Traffic Channel (PDTCH), Packet Associated Control Channel (PACCH) and PTCCH are preferably not rotated."

Reference can also be made to page 8, lines 20-26:

> "For example, **a given one of the BTS 5 transmits/receives its control channel on frequency 1 at timeslot 7, and during the next 52-multiframe period the base station shifts its control channel transmission /reception to timeslot 5. This rotation continues multiframe by multiframe as, for this example, 7,5,3,1, 7,5,3,1, 7..., etc.**"

The specification clearly provides support for the claimed language:"rotating control channels belonging to a serving time group over non-sequential, alternate timeslot numbers within a frame".

The foregoing arguments apply as well to the other claims as last amended.

The Examiner is respectfully requested to reconsider and remove the rejections of claims 1, 2, 4-6, 9, 10 and 13, as last amended and shown above, under 35 U.S.C. 102(e) based on the 3-Carrier Compact Proposal, and to allow all of the pending claims 1-14 as now presented for examination. An early notification of the allowability of all of claims 1-14 is earnestly solicited.

Respectfully submitted:

Harry F. Smith — Date: 5/4/2005

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5/4/2005 — Claire F. Isaacs

Date — Name of Person Making Deposit